# Agus Gunawan

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## Research Interests

**Deep Learning, Low-Level Vision**
Controllable low-level vision

## Education

**KAIST** — Daejeon, South Korea
*Ph.D. in Electrical Engineering.* — *Aug. 2020 – Present*
Advisor: Munchurl Kim

**Bandung Institute of Technology** — Bandung, Indonesia
*B.E. in Computer Science.* — *Aug. 2015 – Jul. 2019*
Advisor: Dwi H. Widyantoro

## Experience

**Machine Learning Engineer** — May. 2020 – Jan. 2021
*Sembly* — *Remote, Singapore*
- Researched various vector index infrastructures for search
- Researched various search infrastructure
- Developed various search features in production

**Software Engineer in Data Team** — Oct. 2019 – Apr. 2020
*Airy* — *Jakarta, Indonesia*
- Created an event extraction system using text classification, NER, and relationship extraction
- Created and maintained machine learning infrastructure in AWS
- Created and maintained data science products in production
- Added features and maintained various data services in production

**Artificial Intelligence Engineer Intern** — Aug. 2019 – Oct. 2019
*GLAIR* — *Jakarta, Indonesia*
- Developed deep learning model for a recommendation system of sequence data

**Machine Learning Engineer Intern** — May. 2018 – Aug. 2018
*Bukalapak* — *Jakarta, Indonesia*
- Developed a Named Entity Recognition (NER) API used in production
- Developed a NER Tagger model for product title, description, and location

## Publications

**Peer-Reviewed Conferences and Journals - Selected:**

[P1] **Agus Gunawan**, S.Y. Kim, H. Sim, J. H. Lee, M. Kim
"Modernizing Old Photos Using Multiple References via Photorealistic Style Transfer".
**CVPR 2023**

**Other Publications:**

[O6] **Agus Gunawan**, X. Yin, K. Zhang
"Understanding and Improving Group Normalization"
Technical Report, **arXiv 2022**

[O5] **Agus Gunawan**, M. A. Nugroho, S. J. Park
"Test-time Adaptation for Real Image Denoising via Meta-transfer Learning"
Technical Report, **arXiv 2022**

[O4] **Agus Gunawan**, S. R. H. Madjid
"CISRNet: Compressed Image Super-Resolution Network"
Technical Report, **arXiv 2022**

[O3] **Agus Gunawan**, D. H. Widyantoro
"Key Frame Extraction with Face Biometric Features in Multi-shot Human Re-identification System".
**ICACSIS 2019**

[O2] **Agus Gunawan**, H. Lovenia, A. H. Pramudita
"Fake Image Detection using ELA and Deep Learning".
Technical Report, **ResearchGate 2018**

[O1] H. Lovenia, F. Limanta, **Agus Gunawan**
"Automatic Question-Answer Pairs Generation from Text".
Technical Report, **ResearchGate 2018**

## Projects

[RA4] **Colorization & Inpainting** Apr. 2023 – Present

[RA3] **Image Colorization via Local Photorealistic Style Transfer** Dec. 2022 – Mar. 2023

[RA2] **Old Photo Modernization using Multiple References as Guidance** Mar. 2022 – Nov. 2022

[RA1] **Old Photo Restoration via Image-to-Image Translation** Jul. 2021 – Nov. 2021

[O3] **Person Re-identification System using Deep Learning** Feb. 2019 – Nov. 2019

[O2] **Fake Image Detector using CNN** 2018

[O1] **Named Entity Recognition System using Machine Learning** 2018

## References

Available upon request.